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10/501,435	07/13/2004	Tatsuya Kato	890050.485USPC	7431

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EXAMINER
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PATEL, GAUTAM

ART UNIT	PAPER NUMBER
2627	

MAIL DATE	DELIVERY MODE
02/29/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/501,435

Applicant(s)

KATO ET AL.

Examiner

Gautam R. Patel

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 and 9-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 9-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 1-4 & 9-21 are pending for the examination.

### RCE STATUS

2. The request filed on 1/23/08 for Request for Continued Examination (RCE) under 37 CFR 1.114 based on parent Application is acceptable and a RCE has been established. An action on the RCE follows.

### Drawings/Objection

3. The drawings are objected for following reasons:

The drawings are objected to under 37 C.F.R. § 1.83(a). The drawings must show every feature of the invention specified in the claims.

New Matter has been introduced in fig. 1A step 106 in form of "downward pulses". This must be removed from the drawings and also from the specification.

**No new matter should be entered.**

### Objection to Specification

4. The amendment filed 1/23/08 is objected to under 35 U.S.C. 132(a) because it introduces **new matter into the disclosure**. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The concept of so called "downward pulses" has not been defined or shown in the specification at all. What constitutes "downward" pulse is not clear at all. As a matter of fact the original specification does not use the word downward pulse at all, thus it is not clear what is meant by downward pulse.

Applicant is required to cancel the new matter in the reply to this Office Action.

### Claim Rejections - 35 U.S.C. § 112

5. The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-4 & 9-21 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Paragraph 0006 & 0070 [in the original specification] simply states that “power of the laser beam is lowered to a bottom power  $P_b$ ”. The specification does not disclose at all “the so called downward pulses, how they are created, and if they are different from pulses which already exist, what makes them downward pulses”. As matter of fact word “downward” does appear in the original specification at all.

NOTE: In absence of any explanation in REMARKS and pointing towards the specification as to from which page this limitation comes from, for examination purposes it is assumed that the Applicants merely referring to bottom power level  $P_b$ .

6. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4 & 9-21 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, last two lines are confusing and unclear. It not clear what s meant by “downward pulses”. Which pulses are defined as downward pulses? Also the limits of bottom powers as “substantially same” have not been defined. The word substantially makes claims indefinite.

Claim 1, last two lines the scope of “downward pulses” lacks proper antecedent basis from the original specification

### **Claim Rejections - 35 U.S.C. § 102**

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --  
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if

the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 9-12, 14, 16, 18 and 20-21 are rejected under 35 U.S.C. § 102(e) as being anticipated by Miyamoto et al., US. Patent 6,236,635 (hereafter Miyamoto).

As to claim 1, Miyamoto discloses the invention as claimed [see Figs. 6 and 11-12] including setting recording powers and having second recording power lower than the first recording power, comprising the steps of:

setting recording powers of a top pulse and/or a last pulse of a laser beam used for forming at least one recording mark contained within said group to a second recording power [power P3 and P9] lower than a first recording power [power P7] which is a recording power of an intermediate pulse(s) between the top pulse and the last pulse [col. 9, lines 12-28 and fig. 6];

setting a pulse width of a cooling pulse of laser beam used for forming at least one recording mark contain within said group to be wider [2.25T] than the pulse width of each of the top pulse [1T], intermediate pulse(s) [1/2T] and last pulse [1T]; and

setting bottom powers [of downward pulses?] to be substantially same, thereby recording information in the optical recording medium [col. 12, lines 36-50; col. 14, line 56 to col. 15, line 16 & figs. 11-12].

NOTE: see figs. 3, 6 and 11. ALL bottom powers are same  $P_4 [P_b] = 0.5$ , exactly same as defined by the Applicants.

8. The aforementioned claim 3, recites the following steps, inter alia, disclosed in Miyamoto:

the first recording power  $P_{w1}$  and the second recording power  $P_{w2}$  are set so that  $P_{w2}/P_{w1}$  is smaller than 0.9 [col. 9, lines 12-28].

NOTE: Miyamoto discloses the range of this power to be 0.1 mw to 2.0 mw, which falls within the range of 0.9, thus satisfying 0.9 value limit.

9. The aforementioned claim 9, recites the following steps, inter alia, disclosed in Miyamoto:

the pulse width of the cooling pulse is set to be equal to or wider [2.25T] than 1.0 T, wherein T is one clock cycle [col. 12, lines 36-50; col. 14, line 56 to col. 15, line 16 & figs. 11-12].

10. The aforementioned claim 10, recites the following steps, inter alia, disclosed in Miyamoto:

a length of a shortest signal between neighboring recording marks is equal to or shorter than 30 ns [col. 6, lines 7-20].

11. The aforementioned claim 11, recites the following steps, inter alia, disclosed in Miyamoto:

a length of a shortest signal between neighboring recording marks is equal to or shorter than 20 ns [col. 6, lines 7-20].

12. As to claims 12, 14, 16 and 18, they are apparatus claims corresponding to claims 1, 3, 1 and 3 respectively and they are therefore rejected for the similar reasons set forth in the rejection of claims 1, 3, 1 and 3 respectively, above.

13. The aforementioned claim 20, recites the following steps, inter alia, disclosed in Miyamoto:

setting a recording power of an intermediate pulse to a first power [fig. 6, level P7];

setting recording powers of a top pulse and a last pulse of a laser beam used for forming at least one recording mark to a second recording power [power P3 and P9] lower than the first recording power [power P7] which is a recording power of an intermediate pulse [col. 9, lines 12-28 and fig. 6];

setting a bottom most power level for the laser pulse while the mark is being recorded, the bottom most power being lower than the first power and the second power and also being lower than a median power and being positioned between the top pulse and an intermediate pulse and the last pulse [col. 12, lines 36-50; col. 14, line 56 to col. 15, line 16 & figs. 11-12];

setting a pulse width of a cooling pulse of laser beam used for forming at least one recording mark contain within said group to be wider [2.25T] than the pulse width of each of the top pulse [1T], intermediate pulse(s) [1/2T] and last pulse [1T], thereby recording information in the optical recording medium [col. 12, lines 36-50; col. 14, line 56 to col. 15, line 16 & figs. 11-12].

14. The aforementioned claim 21, recites the following steps, inter alia, disclosed in Miyamoto:

setting the pulse width of the cooling pulse [2.25T] to be greater than or equal to than 3 times wider than any intermediate pulse [0.5T] of the pulse train for forming the recording mark [col. 12, lines 36-50; col. 14, line 56 to col. 15, line 16 & figs. 11-12].

#### **Claim Rejections - 35 U.S.C. § 103**

15. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 4, 13, 15, 17 and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Miyamoto as applied to claims 1, 3, 12, 14, 16 and 18 above.

As to claim 2 Miyamoto discloses all of the above elements, including middle level pulse power level higher than the first and last pulse. Miyamoto does not specifically disclose [in this embodiment] that first and last pulse is set at equal power level to the extent claimed.

However, equal power levels of first and last pulse are well known in the art for a long time. More importantly Miyamoto teaches power level of first pulse and last pulse to be equal see fig. 3, 6 & 7, power level P3 [col. 6, line 51 to col. 7, line 6].

One of ordinary skill in the art at the time of invention would have realized that from the clear suggestion given by Miyamoto that power level P3 [first pulse] and power level P9 [last pulse] in fig. 6 can be the same [col. 9, lines 18-19].

Therefore, it would have been obvious to have used equal power level for first and last pulse in the system of Miyamoto as taught by Miyamoto because one would be motivated to reduce number of parts that are required to produce pulses in the system of Miyamoto and provide faster signal controls and consolidate production of the waveforms thus making system less expensive.

16. As to claim 4, it is rejected for the similar reasons set forth in the rejection of claim 3 above.

17. As to claims 13, 15, 17 and 19, they are apparatus claims corresponding to claims 2, 3, 2 and 3 respectively and they are therefore rejected for the similar reasons set forth in the rejection of claims 2, 3, 2 and 3 respectively, above.

18. Applicant's arguments filed on 1/23/08 have been fully and carefully considered but they are not deemed to be persuasive for the following reasons.

In the REMARKS, the Applicant argues as follows:

A) That: "Miyamoto does not teach or suggest the invention of claim 1. In particular, Miyamoto does not teach or suggest setting bottom powers of downward pulses to the same level. Instead Miyamoto ..." [page 13, paragraph 6; REMARKS].

FIRST: Please see new rejection above.

SECOND: Please see figures 3, 6 and 11, all of them clearly shows that bottom power level of the pulses 3T, 4T, 6T and 11T are all  $P_4 = 0.5 \text{ mW}$ . Also specification [original] clearly shows that the bottom power level  $P_b$  [equivalent of  $P_4$  by Miyamoto] is also exactly  $0.5 \text{ mW}$  see paragraph 0006 last line.



Application/Control Number:  
10/501,435  
Art Unit: 2627

Page 8

B) That; "Amended claims 12 ....16 ....20 recites.." [Page 14, paragraphs 4-6;  
REMARKS].

Same argument as above is also applicable to above claims

#### **Contact information**

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is 571-272-7625. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2600) where this application or proceeding is assigned is 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Dwayne Bost, can be reached on (571) 272-7023.

Any inquiry of a general nature or relating to the status of this application should be directed to the Electronic Business Center whose telephone number is 866-217-9197 or the USPTO contact Center telephone number is (800) PTO-9199.

  
**GAUTAM R. PATEL**  
**PRIMARY PATENT EXAMINER**

Gautam R. Patel  
Primary Patent Examiner  
Group Art Unit 2627

February 24, 2008